

**Addendum to the  
Botanical Review  
Of  
Survey and Manage  
Plant Species**

**Klamath National Forest**

PROJECT NAME: Mt. Ashland LSR Habitat Restoration  
and Fuels Reduction Project

RANGER DISTRICT: Oak Knoll

COMPARTMENT (S): Cottonwood, Long John, Cow, Sterling, Hungry

Prepared by: /s/ Julie Knorr Date: 12/20/07

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## I. Introduction

The purpose of this document is to evaluate the Preferred Alternative of the Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project in sufficient detail to determine its effects on Survey and Manage plant species. This document is an addendum to the Botanical Review dated March 29, 2007 (USDA 2007b). This document will not repeat the original report, but will refer to the information available in the original Botanical Review. In addition, this document includes sections titled Changes in Original Report to include any significant revisions to the original report.

### A. Location Information

See the original Botanical Review (USDA 2007b).

For a map of the proposed project area, including the Preferred Alternative, see the *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project FEIS* (USDA 2008).

### B. Species of Concern

See the original Botanical Review (USDA 2007b).

### C. Preliminary Botanical Review

See the original Pre-field Review (USDA 2006).

The Preferred Alternative contains documented occurrences or suitable habitat for the following species:

SPECIES	CODE	STATUS	SURVEY RECOMMENDED
<i>Cypripedium fasciculatum</i>	CYFA	S&M Category C	No – effects can be evaluated based on existing surveys.
<i>Cypripedium montanum</i>	CYMO2	S&M Category C	No – effects can be evaluated based on existing surveys.
<i>Ptilidium californicum</i>	PTCA5	S&M Category A	No – effects can be evaluated based on existing surveys.

## II. Current Management Direction

See the original Botanical Review (USDA 2007b).

#### Changes in Original Report:

**S&M exemption** – On October 11, 2006, a US District Court decision (Case 2:04-cv-00844-MJP) held that all Forest Service and BLM authorized activities must comply with the 2001 ROD (USDA 2001) except for several specific activities. These exempted activities include (among others) 1) thinning projects in stands younger than 80 years old and 2) the portions of projects involving hazardous fuel treatments where prescribed fire is applied, except for any portion of a hazardous fuel treatment project involving commercial logging where treatment stands are older than 80 years old. The portion of the Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project in which prescribed fire alone (no commercial logging) is applied is thus exempt from Survey and Manage requirements under activity #2 above. No Survey and Manage surveys are required within these prescribed fire areas.

**Category B species** - For Category B species, the 2001 Survey and Manage ROD requires the Forest Service and BLM to conduct strategic surveys to "find additional new sites and to characterize the habitat, improving the ability of the Agencies to know where to survey and how to manage and conserve the species." (USDA 2001). The Forest Service and BLM may not sign NEPA decision documents for "habitat-disturbing activities in old-growth forest" in FY 2006 (FY 2011 for fungi) or later unless the agencies have completed strategic surveys in the province in which the project lies or "equivalent-effort surveys have been conducted in the old-growth habitat to be disturbed." On April 3, 2006, the agencies released an instruction memorandum (USDA 2006e) disclosing that strategic surveys have not been completed for 9 Category B species (2 lichens, 4 bryophytes and 3 mollusks). Thus, equivalent effort surveys are required for these species if the agencies intend to authorize logging in old growth forest.

The six plant species are *Bryoria subcana*, *Tholurna dissimilis*, *Kurzia makinoana*, *Marsupella emarginata* v. *aquatica*, *Orthodontium gracile*, and *Tritomaria exsectiformis*. The Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project is not within range and habitat of these species. These species are either strictly coastal or do not occur south of Central Oregon. The survey protocol requires that a project be within both range and habitat for a particular species in order to trigger pre-project surveys. No surveys are required for these species.

### **III. Description Of Proposed Action**

#### **A. Preferred Alternative**

The Preferred Alternative was developed after issuance of the Draft EIS to respond to comments and input from the public. Public input was provided during the 45-day comment period and during nine public field trips that occurred during the 2007 field season. Modifications were made to the existing proposal to further respond to concerns over spur road construction, concerns about effects along the Pacific Crest Trail, concerns about the economics of the project, and to respond to a general support of underburning as a fuels reduction treatment. The Preferred Alternative has the following changes from Alternative 2:

- Stands 250, 312, 313, and 314 along the PCT have been dropped.
- Stand 703 has been dropped to avoid road re-construction on roads 40S20.1 and 1A.
- Stands 235 and 339 have been dropped due to the dropping of spur road T235.
- Stand 440 has been dropped due to infeasibility of underburning that stand.
- There are 13 fewer spur roads than Alternative 2; remaining spurs are only located on ridges tops or upper slopes in this alternative.
- Spur road mileage has been reduced from 6.72 to 1.70 miles; spur roads T206A, T206B, T228A, T228B, T235, T254, T264, T277A, T317A, T320A, T320B, T320C, T380, T383, and T401 have been dropped and ridgetop road 40S02.1 has been extended approximately 1/10<sup>th</sup> of a mile.
- There is reduced helicopter yarding (from 1071 to 935 acres).
- There is reduced ground based equipment yarding (tractor, tractor end-line, mechanical harvester) (from 1202 to 1056 acres).
- There is increased cable yarding (from 1602 to 1610).
- There are more new landings proposed to facilitate yarding but less acreage affected due to smaller skyline landings on system roads (43 new landings, 22 acres).
- There are fewer acres treated with timber harvest (from 3875 to 3601).
- There is more underburning to reduce fine fuels and ladder fuels outside of thinning stands (from 120 to 1,453 acres); the additional underburning consists of six “batched” underburn areas as displayed on Map X.
- There will be 208 less acres of mastication and mastication will occur only on slopes  $\leq 35\%$ .
- In true fir stands, as part of the prescription, red fir will be favored in stands that are dominated by white fir to increase diversity.

Many features of the Preferred Alternative are similar to the other action alternatives; such as thinning prescriptions. The specific components of the Preferred Alternative, that are different from the other action alternatives, are displayed below in the description (refer to Appendix X for information specific to each unit). For treatment stands, spur location, and landing locations, refer to Maps x and x.

The Preferred Alternative will treat 4,468 acres in 247 stands and 1297 acres in six underburn areas. Activity and natural fuels will be treated in all stands. Silvicultural and fuels prescriptions are the same as those described for Alternative 2 (see prescriptions below) but the acres treated are different. Road actions are the same as those displayed for Alternative 2 except that three fewer existing roads will be used and 1.7 miles of temporary spur roads will be constructed (5.01 fewer miles than Alternative 2). It is estimated that the number of landings constructed will

increase but less acreage will be affected (43 landings and 22 acres potentially disturbed) than under the other action alternatives. Refer to Appendix X for specific treatment information.

### **Restoration Silvicultural Treatments**

- Variable density thinning of trees >9" DBH on 2,543 acres in 154 stands
- Small diameter thinning of trees ≤9" DBH and below on 408 acres in 16 stands; hand-piling (253 acres), underburning (97 acres) and mastication (58 acres) will be used to treat resultant fuels.

### **Defensible Fuel Profile Zone**

- Variable density thinning of trees larger than 9" DBH on 1,058 acres in 42 stands as part of DFPZs along upper slopes and ridges

### **Associated Activities**

- Small diameter thinning of understory trees in a subset of the 3,601 acres and 196 stands identified for variable density thinning above (thinning will occur as needed on a stand by stand basis).

### **Restoration Support Actions**

- Helicopter yarding systems to remove trees on 935 acres in 53 stands
- Skyline systems to remove trees on 1,610 acres in 79 stands
- Ground-based equipment systems to remove trees on 1,056 acres in 64 stands
- An estimated 35 existing landings will be used and small material or brush may be cleared to accommodate yarder swing or processing of small trees for bio-mass utilization.
- An estimated 43 new landings will be constructed. No new landings will be constructed within RRs. Ground-based and skyline landings will be between 0.25 and 0.5 acres in size, helicopter landings will be up to 1 acre in size. The total acreage disturbed by landing construction will not exceed 22 acres.

- In addition to constructed landings and existing landings, logs will be landed on the existing road bed during cable yarding (“continuous landing” along roads) on roads 41S09, 41S10, 40S06.2, 40S06, 48N28, 41S15, and 40S14. Minor clearing of small material and brush may occur where needed and roads may be closed to public access during operation.
- Landings will be hydrologically restored post-project. If it is determined by an earth scientist that special erosion control measures are needed, they will be implemented on a site by site basis.

## **Fuels Reduction Treatments**

- Whole tree removal in stands treated by ground-based yarding systems on 1,056 acres in 64 stands
- Yard tops-attached in skyline and helicopter stands to minimize activity fuels.
- Mastication to reduce activity and natural fuels on 202 acres in 15 stands; mastication combined with underburning on 735 acres in 43 stands; mastication combined with hand-piling on 42 acres in 3 stands.
- Hand-pile and burn to reduce activity and natural fuels on 566 acres in 34 stands; hand-pile and burn followed by underburning on 55 acres in 1 stand.
- Underburning within thinning stands to reduce activity and natural fuels on 1,916 acres in 95 stands.
- Underburning combined with hand-piling within thinning stands adjacent to private land on 85 acres in one stand.
- Underburning as a stand-alone treatment to reduce natural fuel build-up in two stands on 156 acres
- Underburning outside of thinning stands to reduce fine ground fuels and ladder fuels in “batched” burn areas on 1,297 acres.
- Thinning small trees and burning material to reduce ladder and surface fuels within RRs on 303 acres in 31 stands

## Restoration Support Road Actions

Roads changed from open to year-round closure, roads decommissioned, and roads put on the system are the same as displayed for Alternatives 2, 4 and 5.

**Table xx. Preferred Alternative Restoration Support Road Actions**

Management Activity	Road Segment	Miles
Existing Unauthorized roads used for the Project: opened, used, hydrologically stabilized and closed	40S09.1A	0.77
	40S09.1A1	0.11
	40S09.2	0.18
	40S12.1	0.15
	40S13.1	0.42
	40S13.2	0.08
	40S14.1	0.12
	40S14.2	1.14
	40S16.1 segment	0.10
	40S16.5 segment	0.04
	40S16.5B	0.17
	40S20.1	0.47
	40S20.1A	0.76
	41S07.3	0.80
	41S09A.1	0.21
	41S10.2	0.07
	41S10.3	0.14
	41S15.1 segment	0.19
	41S15.3	0.73
	41S15.3A	0.53
	48N30A.1	0.18
	48N37.1	0.64
	41S13 to Stand 381	~0.38
	40S06.2 to Stand 253	~0.25
New Temporary Spur Road Construction: construct, use, decommission	T207	0.43
	T216	0.14
	T232	0.06
	T266	0.14
	T300	0.12
	T317	0.47
	T380A	0.16
	T206C	0.19

## B. Resource Protection Measures (Conservation Measures)

### Known Sites:

Mitigation for plant species of concern has been designed into the proposed action. One population of *Ptilidium californicum* (PTCA5) was previously known within the project area. It is located within a Thin & Handpile <9" unit (#465) which is surrounded by a larger Commercial

Thin >9" unit (#300). One new population of *Ptilidium californicum* (PTCA5) was discovered during project surveys. It is located within a Commercial Thin >9" unit (#284). Based upon the recommendations of the botanist, site-specific habitat protection areas will be laid out on the ground around the Survey and Manage plant populations. The sites have been evaluated on the ground to determine the buffer widths. Factors considered include overstory trees available for shading, the need to thin dense stands to prevent deterioration of the stand within the buffer, protection from prescribed fire or the need to apply prescribed fire within the buffer to prevent catastrophic wildfire, and other habitat protection needs.

Population	Location	Treatment	Buffer
PTCA5-5-61	Unit #300	Thinning >9"; skyline. Underburn.	No timber harvest, one site tree distance around population.
	Unit #465	Thinning <9"; handpile/burn; underburn w/U#300.	No thin/handpile/burn/underburn 25 ft. around population.
PTCA5-5-92	Unit #284	Thinning >9"; skyline. underburn.	No timber harvest, one site tree distance around population. No underburn 25 ft. around population.

The buffer width for timber harvest is equivalent to one site tree height in distance. This buffer, a strip outside of the actual population area, is an area in which no timber harvest ground-disturbing activities will occur. Within this buffer, small diameter trees will be thinned/handpiled/burned/underburned (U#465) or underburned (U#284) to within 25 ft. of the population. There will be no ground disturbing activities of any kind within 25 ft. of the population.

#### Changes in Original Report:

Unit #465 is located within, and surrounded by, U#300. The timber harvest buffer in U#300 is measured as one site tree diameter outside of the population boundary. This distance encompasses a portion of U#465, which is not a commercial thin unit, and will not have overstory trees removed, and a portion of U#300, which is a commercial thin unit. This is a clarification, and does not change the substance of the effects analysis in the original Botanical Review.

## **IV. Existing Environment**

### **A. Known Sites – Category B, C, and E Species**

See the original Botanical Review (USDA 2007b).



## **B. Field Survey**

See the original Botanical Review (USDA 2007b).

Field surveys have been conducted for the proposed project areas in October 2003, July, August and September 2004, May, June, July, and August 2005, and October, November, and December 2006 in accordance with current species protocols. All areas within the project area boundary which were proposed for ground disturbing activities in the Draft Environmental Impact Statement (USDA 2007) have been surveyed for the 3 target species for which surveys were recommended (*Cypripedium fasciculatum* (CYFA), *Cypripedium montanum* (CYMO2), and *Ptilidium californicum* (PTCA5)). All areas of proposed ground disturbance within the new Preferred Alternative have been surveyed for these species with the exception of the 1297 acres of additional underburning outside of treatment stands. These areas, in which prescribed fire will be the only ground disturbing activity, are exempt from Survey and Manage requirements (see II above). All other areas of suitable habitat proposed for ground disturbing activities have been surveyed for CYFA, CYMO, and PTCA5

See the original Botanical Review (USDA 2007b) for a list of populations known within the project area.

Sensitive/S&M Plant Survey Reports, dated: 2003, 2004, 2005, 2006 (USDA 2006a)

Sensitive/S&M Plant Population Reports, dated: 6-19-02, 7-22-04, 10-27-2006 (USDA 2006b)

## **B. Species Accounts – Vascular plants**

- *Cypripedium fasciculatum* and *Cypripedium montanum*:

Suitable habitat for these species is found within the 1297 additional acres of underburning outside of timber harvest treatments units proposed within the Preferred Alternative. These areas are exempt from Survey and Manage requirements (see II above).

- *Cypripedium montanum* - mountain lady-slipper orchid – CYMO2 - Known site:

See the original Botanical Review (USDA 2007b).

## **D. Species Accounts – Bryophytes**

See the original Botanical Review (USDA 2007b).

- *Ptilidium californicum* Pacific fuzzwort – PTCA5:

See the original Botanical Review (USDA 2007b).

## **V. Mitigation Measures**

## Species Specific Management Recommendations

- *Cypripedium montanum*:

See the original Botanical Review (USDA 2007b).

- *Ptilidium californicum*:

See the original Botanical Review (USDA 2007b).

## Resource Protection Measures

The following mitigation measures have been incorporated into the project design. Site specific buffers will be laid out at each site.

UNIT	POPULATION	MITIGATION
U#300	PTCA5-5-61	No timber harvest, one site tree distance around population.
U#465	PTCA5-5-61	No thin/handpile/burn/underburn, 25 ft. around population.
U#284	PTCA5-5-92	No timber harvest, one site tree distance around population. No underburn 25 ft. around population.

## VI. Effects Of The Alternatives

The significance of management activities upon Survey and Manage plant species depends upon many factors, including the current habitat conditions of the known populations, the habitat conditions necessary to support the species, and the degree of species sensitivity to short-term and long-term habitat modification. The Preferred Alternative is evaluated in terms of how the proposed activities would meet the requirements of the species specific Management Recommendations discussed above in Section V.

The effects of the alternatives upon *Cypripedium montanum* and *Ptilidium californicum* have been discussed in detail in the Mt. Ashland project Biological Assessment/Evaluation for TES Plant Species (USDA 2007a and 2007b). That information will only be summarized here.

### B. Effects of the Preferred Alternative

- *Cypripedium montanum*

In this alternative, this species is located more than ¼ mile from the closest proposed project activity area. There will be no direct effect to individuals or populations and existing habitat

conditions would be maintained at each population site. The distance from the closest activity area is great enough that there would be no indirect effects from any of the project activities. There will be no direct, indirect, or cumulative effects to these species. Management Recommendations for this species would be met.

- *Ptilidium californicum*:

Timber harvest effects: In this alternative, there will be no timber harvest related ground disturbing activities within or adjacent to the *Ptilidium californicum* populations present. A protection buffer of one site tree (approximately 150 ft.) will be designated on the ground. Within this buffer, no timber harvest will occur, and no trees >9 inches will be removed. This will retain all existing shade and cover provided by the moderate to large sized trees. A buffer of this size will preserve existing moisture levels at the PTCA5 site, and will provide for additional large diameter recruitment trees to serve as substrate for the species. There will be no heavy equipment operated within the buffer, and this will protect the PTCA5 plants from mechanical damage. There will be no direct effect to individuals and no indirect effect to the species habitat quality because all habitat elements will be retained. Because these populations will be maintained, there will be no cumulative effect from this and other project activities occurring within the project area boundary.

Fuel treatment effects: In this alternative, fuels within the units will be treated by thinning small diameter trees <9 inches, hand piling, and burning piles, and underburning (U#465) or underburning (U#284 & #300,). The PTCA5 populations will be protected from these activities with a fuel treatment buffer of 25 ft. Retention of all existing small diameter trees within this buffer will provide additional shading and moisture retention adjacent to the population. No handpiles will be constructed or burned and no underburning will occur within this buffer. This buffer will protect the population from direct mechanical damage from thinning and the heat and radiation effects of pile burning or underburning.

Small diameter trees outside this buffer do not provide additional shading and contribute to increased fuel loading and wildfire risk levels. These small diameter trees outside the 25 ft. buffer will be thinned and burned or underburned. This is likely to provide a beneficial effect to the population and habitat through the reduction of fuel loading and wildfire risk.

Associated activities effects: Pre-commercial thinning, other fuel treatment activities, restoration support road actions and all other proposed actions in this alternative would have no effects to these *Ptilidium californicum* populations. These activities are proposed in areas that are not within or adjacent to the populations or their buffer area.

Summary – PTCA5: Because these populations will be protected, there will be no direct, indirect, or cumulative effects to the *Ptilidium californicum* populations. Management Recommendations for this species would be met.

## References Cited

**USDA Forest Service and USDI Bureau of Land Management. 2001.** Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl. January 2001.

**USDA Forest Service 2006.** Botanical Pre-field Review of Proposed Projects and Results of Preliminary Field Review, Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project. Appendix A-1, A-2, A-3. Unpublished document on file. Supervisor's Office, Klamath National Forest, Yreka, CA. Klamath National Forest. June 15, 2006.

**USDA Forest Service. 2006a.** 2670: Sensitive/Survey and Manage Plant Survey reports, Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project. Unpublished notes on file, Supervisor's Office, Klamath National Forest. Yreka, CA.

**USDA Forest Service 2006b.** Botany Program population site reports. 1979-2006. Unpublished notes on file. Klamath National Forest, Yreka, CA.

**USDA Forest Service and USDI Bureau of Land Management 2006e.** *Equivalent effort Surveys for Survey and Manage Category B Species; and Survey Methodology for One lichen Species with Category Change from 2003 Annual Species Review.* BLM-Instruction Memorandum No. OR-2006-038. Survey Protocol Guidance (Attachment 1).

**USDA Forest Service 2007.** *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project Draft Environmental Impact Statement.* Supervisor's Office, Klamath National Forest, Yreka, CA. May 2007.

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**USDA 2007b.** *Botanical Review of Survey and Manage Plant Species.* Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project. March 29, 2007. On file, Klamath National Forest, Yreka, CA.

**USDA Forest Service 2008.** *Mt. Ashland LSR Habitat Restoration and Fuels Reduction Project Final Environmental Impact Statement.* Document in progress, expected Spring 2008. Supervisor's Office, Klamath National Forest, Yreka, CA.